

Remarks/Arguments:

Claims 1-18, 20 and 24 were pending.

Claims 1-4, 11, 14, 16-18, 20 and 24 were rejected under 35 USC 102(b) as being anticipated by or, in the alternative, under 35 U. S. C. 103(a) as obvious over Cooke (US 2003/0060374). Cooke (paragraph [0021]) states that “The preferred fracturing fluid disclosed herein is described as a “polymer phase” containing a degradable polymer. A polymer phase may be the polymer or a mixture of the polymer and a liquid, which will usually be a carrier fluid. The polymer is present as a bulk phase, i.e., not as a finely divided or disperse material.” The present specification states on page 10, lines 26-28, that “Preferred sizes are those of proppants and fluid loss additives since operators have the equipment and experience suitable for those sizes.” Claims 1 and 24 have been amended to show that the present invention uses particles of solid acid-precursor. Cooke teaches away from the use of particles. In paragraph [0022] Cooke states that “Fluid loss additives are finely divided polymer particles that are dispersed in the fracturing fluid and injected, but such particles are not injected as a polymer “phase”. The term “phase” as used herein does not include finely divided material.” Cooke (see particularly paragraphs [0029] – [0032]) describes a process in which only such a polymer “phase” is injected into the formation. Various methods are described, including some in which the polymer is introduced into the wellbore as pellets, but then the polymer is always converted, or allowed to convert, into a continuous phase before it is injected into the formation. See, for example, paragraph [0032]: “When the pellets reach the perforations and pumping pressure increases, pumping is stopped or slowed and time is allowed for additional pellets of degradable polymer to accumulate by settling near and above perforations. The polymer phase is later extruded through the perforations as pressure in the wellbore is increased.” Claims 1 and 24 have been amended to show that in the present invention the particles of solid acid-precursor are injected into the formation. The Examiner has interpreted paragraph [0029] of Cooke as advocating a polymer concentration of less than 50 volume %; Applicants respectfully disagree. Cooke repeatedly states that the polymer “phase” is the continuous phase when injected into the formation; see for example the

Summary: "The degradable plastic is then converted to a continuous or external phase and used as the fracturing fluid to form a fracture near a wellbore...." Therefore, in paragraph [0029]: "When degradable polymer becomes the continuous or external phase, the fraction of degradable polymer will have increased to greater than about 50 percent volume." means that the fraction of degradable polymer should be greater than about 50 percent volume. The next sentence starts "Higher degradable fractions are preferred...."

Claims 1-4, 11, 14, 16-18, 20 and 24 were rejected under 35 USC 102(a,e) as being anticipated by or, in the alternative, under 35 U. S. C. 103(a) as obvious over provisional application (US 60/325,071). The Examiner points out that the provisional application discloses in paragraph [0013] that the polymer may be present at a concentration of from about 2 per cent to about 50 per cent; however, that is in the carrier fluid that delivers the polymer to the wellbore before it is "accumulated in the wellbore at a selected location, preferably in the casing near the perforations, so that it becomes the continuous phase" before it is injected into the formation.

Claim 24 was rejected under 35 USC 102(b) as being anticipated by or, in the alternative, under 35 U. S. C. 103(a) as obvious over Erbstoesser (US 4,761,964). Erbstoesser describes plugging perforations in casing using degradable ball sealers. As amended, claim 24 claims injecting particles of degradable material into the formation.

None of these references, alone or in combination, teaches or suggests injecting particles of the degradable material into the formation; Cooke teaches that a continuous polymer phase is injected, while Erbstoesser teaches a method in which the solid degradable material cannot be injected into the formation.

Claims 1-3, 10, 14, 15, 17, 20 and 24 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 (e.g. claim 3) of copending Application No. 10/941,384. A Terminal Disclaimer accompanies this paper.

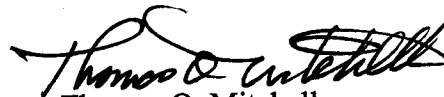
Claims 1-3, 10, 14, 15, 17, 20 and 24 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-30 (e.g. claims 2, 19) of "copending Application No. 10/941,384". Applicants believe that the intended reference is copending Application No. 10/941,355. A Terminal Disclaimer accompanies this paper.

Claims 5-9, 12 and 13 were objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants believe that the rejected base claims are now allowable.

In light of the above amendments and remarks, Applicants respectfully request that a timely Notice of Allowance be issued in this case.

The Commissioner is authorized to charge any additional required fee, or credit any excess fee paid, to Deposit Account 04-1579 (56.0708).

Respectfully submitted,



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